Amendments to the Claims

1   1. (currently amended) A method for processing a compressed input video,

2   comprising:

3   decoding the compressed input video to produce an interlaced picture,

4   ~~and macroblock coding information of the input video,~~ the interlaced picture

5   having a first spatial resolution, and a top-field and a bottom-field; ~~and~~

6   producing, for each macroblock in the interface picture, a macroblock

7   coding type and a macroblock transform type;

8   filtering adaptively while downsampling the top-field and the bottom-

9   field of the interlaced picture according to the ~~macroblock coding information~~

10 macroblock coding type and the macroblock transform type to produce a

11 progressive picture with a second spatial resolution less than the first spatial

12 resolution, in which the filtering and the downsampling is performed jointly;

13 and

14   encoding the progressive picture.

2. (canceled)

1   3. (currently amended) The method of ~~claim 2~~ claim 1, in which the macroblock

2   coding type includes intra-coding and inter-coding.

1   4. (currently amended) The method of ~~claim 2~~ claim 1, in which the macroblock

2   transform type includes a frame-based transform and a field-based transform.

1   5. (currently amended) The method of ~~claim 2~~ claim 1, in which the macroblock

2   coding ~~information~~ type further includes a macroblock motion type and

3   corresponding motion vector when the macroblock coding type is inter-coding.

1   6. (original) The method of claim 5, in which the macroblock motion type

2   includes frame-based and field-based.

1   7. (original) The method of claim 1, in which the filtering includes frame-based

2   filtering and field-based filtering.

1   8. (original) The method of claim 7, in which the filtering is field-based

2   when the macroblock coding type is inter-coding and the macroblock motion

3   type is field-based.

1   9. (currently amended) The method of claim 7, in which the filtering is field-

2   based when the macroblock coding type is inter-coding, the macroblock

3   motion type is frame-based, and ~~the~~ an absolute value of motion vectors

4   corresponding to the macroblock are ~~greater~~ less than a threshold.

1   10. (original) The method of claim 9, in which the threshold equals zero.

1   11. (original) The method of claim 9, in which the threshold is greater than

2   zero.

1   12. (original) The method of claim 7, in which the filtering is field-based

2   when the macroblock coding type is intra-coding and the macroblock

3   transform type is field-based.

1   13. (original) The method of claim 7, in which the filtering is frame-based

2   when the macroblock coding type is intra-coding and the macroblock

3   transform type is frame-based.

1   14. (currently amended) The method of claim 7, in which the filtering is

2   frame-based when the macroblock coding type is inter-coding and the

3   macroblock motion type is frame-based, and ~~the~~ <u>an</u> absolute value of motion

4   vectors corresponding to the macroblock are ~~less~~ <u>greater</u> than or equal to ~~the~~

5   <u>a</u> threshold.

1   15. (original) The method of claim 7, in which the filtering is frame-based

2   and operates on input samples from the top-field and bottom-field of the

3   interlaced picture.

1   16. (original) The method of claim 7, in which the filtering is field-based and

2   operates on input samples from the top-field or bottom-field.

1   17. (original) The method of claim 7, in which the filtering is field-based and

2   operates on input samples from the bottom-field.

1   18. (currently amended) The method of claim 1, ~~further comprising:~~ in

2   which the encoding compresses the progressive picture.

3   ~~encoding the progressive picture to an output video.~~

4

5   19. (original) The method of claim 1, further comprising:

6   rendering the progressive picture on a display device.

1   20. (currently amended) A system for processing a compressed input video,

2   comprising:

3   means for decoding the compressed input video to produce an interlaced

4   picture, and ~~macroblock coding information of the input video~~ producing, for

5   each macroblock, a macroblock coding type and a macroblock transform type,

6   the interlaced picture having a first spatial resolution, and a top-field and a

7   bottom-field; and

8   means for filtering, adaptively, <u>while downsampling</u> the top-field and the

9   bottom-field of the interlaced picture according to the ~~macroblock coding~~

10   ~~information~~ macroblock coding type and the macroblock transform type to

11   produce a progressive picture with a second spatial resolution less than the first

12   spatial resolution<u>;</u>

13   an encoder configured to compress the progressive picture.